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Twenty Years of Progress

Jerry L. Rogers

The 20th anniversary of the National Historic Preservation Act occasions a great recounting of past events and prognostication of things to come. Several conferences; numerous articles in professional and technical journals; an administrative history, *The National Historic Preservation Act and the National Park Service*, by Barry Mackintosh; and other works have captured important historical information that busy people almost allowed to slip away. Soon we will be able to assemble a very respectable bookshelf.

People had better read it and read it all. Our field has undergone enormous growth, change, and trauma in a very short time. Almost all participants have contributed to and been affected by events far greater than they expected to see in a lifetime. This naturally has conditioned their interpretation of events that are even larger than the ones they saw firsthand. Many are befuddled by their own experiences, and few, if any, have comprehension of the whole. I have heard a distressing amount of error in historic preservation meetings this year, often with no opportunity to question or correct. Error feeding upon error could become the deadliest crisis yet.

Many yearn backward for the time when things were simple and spirits were high, even though the program had only a fraction of its present effectiveness. Almost everyone wants the program to retain its central Federal core with strong State participation, rather than becoming a collection of State programs. Most people also want Certified Local Governments (CLGs) to grow as a substructure beneath the States, and wish for Federal agencies, non-profits, and private citizens to continue their growing roles. This can be done, but under our Constitution it requires structure and system. That structure and system must be recognized as the key to the greatest simplicity possible for the program of today and tomorrow.

The principal direction of growth is outward from the central core. One can argue that American preservation began in the private sector, or that some local historic districts predate the Act of 1966, but, in fact, the program is rooted in the Act and grew out of the National Park Service's old Office of Archeology and Historic Preservation (OAHP). Once, almost everything was done in that office by its employees. As State programs grew and began to assume the "front-line" functions, OAHP employees saw the institutional progress, but also felt a sense of loss from having their work transformed from "hands-on" activities into administrative ones. Many State employees now suffering a sense of loss do not recognize the very same wave washing over them as "front-line" functions move on to Certified Local Governments.

That transition is both inevitable and desirable, for it enables program growth to continue. People who cannot adapt can solve their problems by making a move to a CLG. It would be better, however, to turn and face the more difficult and more important task of manipulating and refining an administrative system that makes it possible for CLGs, private organizations, and citizens to do their work.

As CLGs grow in number, strength, and capability, States must evolve into overall coordinators and administrators. Like it or not, this means "red tape." The challenge will be to make the "red tape" hold things together without unduly holding them up. The

National Park Service role will continue to evolve toward setting broad standards and general oversight of systems.

These standards and systems exist now. The Secretary of the Interior's "Standards for Historic Preservation Projects," of which the Rehabilitation Standards are only one component, are matched by similar Standards for Registration, HABS/HAER Documentation, and Archeological Data Recovery—for every major aspect of the national program. Each set is drawn directly from Federal law, and in accordance with an appropriate section of the Code of Federal Regulations. Each is explained by plain English guidelines, acceptable to experts but also intelligible to ordinary people. Some have been, and all will be, supplemented by state-of-the art technical information that continues the never-ending process of answering questions about how to do things better. The hierarchy of statute, regulation, standard, guideline, and technical information is the practitioner's tie to the central Federal authority. (See Rogers, "The Integration of Law, Policy, and Technical Information in National Park Service Cultural Resource Programs," CRM Bulletin, Volume 7, No. 3, October 1984, p. 8.) Appeals are available to people who believe the standards have been inappropriately applied. The system wherein States analyze their own past and create contexts of time, place, and theme is a device by which the National Park Service can remove itself from most of the decisions made about historic properties in States without simply denying responsibility for those decisions or properties. The State program approval system provides the final and most formal connection establishing that a State, with its subordinate elements, is officially part of the national program.

These standards and systems weave a lifeline. They give the practitioner a lot of room to move around, they can be extended by adding new links, and they are connected to the secure center. They are the matrix that makes our historic preservation movement also a historic preservation program, and a national program rather than many State and local ones. The standards and systems must be continually modified to make them work as well as possible, but there can be no large-scale "return" to any greater simplicity than this, unless it is by loss of the program or its effectiveness. The renewal of spirit many people seek must be found by accepting the challenge of using and improving these standards and systems, or by moving oneself further down toward the end of the lifeline.

NHPA

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Historic Preservation: Looking Ahead to the Next 20 Years

The Honorable John F. Seiberling

When I came to Congress in 1971, the National Historic Preservation Act (NHPA) was already over four years old. As I look around today, the only current Member of the House Interior Committee who served in 1966 when the Act passed was Morris K. (Mo) Udall (D-Arizona), a staunch champion of historic preservation, who now chairs the Committee. Indeed, of the 535 Members of this Congress, only 50 Representatives and 10 Senators were serving in 1966. Of the 41 current Members of the House Interior Committee, only 16 were on the Committee when the 1980 Amendments to the NHPA were enacted.

Despite this dramatic turnover, Congressional support for historic preservation remains high. It has not been easy, particularly in recent years. Congress has saved this program, largely because of help from the combined forces of many private citizens and organizations, such as the National Trust for Historic Preservation, Preservation Action, and the National Conference of State Historic Preservation Officers, to name a few.

Hence, the 20th anniversary of the NHPA is not merely a cause for celebration. It is also a time for reflection. We must examine not just what has been accomplished under the Act in the past, but also what needs to be done for the future.

This is particularly important for the Congress, since it has a continuing responsibility to oversee the programs it has created. The Interior Committee's Subcommittee on Public Lands—which has primary jurisdiction over the authorization of these programs in the House—has undertaken, at my direction, a two-year oversight review of the entire national historic preservation program. This review has included several hearings, a survey of Federal and State preservation programs and reports by the General Accounting Office, the Congressional Research Service of the Library of Congress, and the Office of Technology Assessment (OTA). I hope to summarize the review in a report to the full Interior Committee this fall. (For information on the oversight review and on how to obtain the printed reports, please contact the Subcommittee on Public Lands, Room 812, House Annex I, Washington, D.C. 20515; Phone: 2021226-7730.)

If one thing has become clear to me from this review, it is that we need a more comprehensive approach to historic preservation. Too often Congress hears fragmented voices that focus only on one issue or one problem at a time—archeologists who talk only about archeology, for example, or preservationists who talk only of buildings. This may be effective as a lobbying tool. However, it does little to increase understanding of the total program, by the Congress, the Administration, or the public.

In Congress, we must deal with the whole range of preservation issues, from the designation of vast wilderness areas and great national parks to the protection of remote archeological sites and the rehabilitation of historic places in towns and cities. I am often surprised to discover that lobbyists on these different issues often do not know each other. Yet all are part of an overall effort to save our Nation's natural and cultural heritage. To designate a wilderness area is not merely to save a landform or protect a watershed; it is also a way to preserve a cultural experience, a view of an essentially unaltered world that our ancestors saw but that, if not protected, we will lose and our grandchildren will never know.

Similarly, historic preservation is not merely limited to saving old buildings or archeological sites. Rather, it is one part of a broader environmental ethic that spans an immense range of activities. It includes designed landscapes as well as buildings and shipwrecks, bridges and moon-rocket gantries as well as magnificent mansions and turn-of-the-century skyscrapers. It is the protection of county courthouses and one-room

schools as well as the designation of historic sites and national landmarks honoring the rich and famous. It is the study of sociology and anthropology as well as of architecture and design. It is oral history and folklore as well as artifacts and written information. It is done in the library as well as in the field, and uses computers and laser beams as well as picks and trowels. It is Federal as well as State, public as well as private, international as well as local, new as well as old. Most of all historic preservation is, to use a term coined by academicians, "contextual"—something we must experience in its total context if we are fully to appreciate it.

The beauty of the NHPA is that it has the capacity to accommodate this vision without the need to make radical changes in the program. At most, some fine tuning may be needed in the Act and some new directives added. However, the institutional framework of the NHPA, as enacted 20 years ago and subsequently amended through the years, is probably more appropriate now than ever before. The National Park Service—which, under the Act, has been delegated professional leadership for the program—is the one Federal agency that has management responsibilities specifically directed at preserving both natural and cultural resources. Of the 337 units of the National Park System, nearly two-thirds were designated primarily for historical reasons, and all of them contain cultural as well as natural resources. The Park Service's preservation mandate extends back 70 years, to its establishment in 1916, when it was charged with preserving "historical objects" in parks as well as nature and scenery and wildlife. Subsequent acts of Congress gave the Service increasing preservation responsibilities, so that today its programs also include the National Register of Historic Places, technical assistance and archeological services, and the highly acclaimed HABS and HAER programs.

What the National Park Service needs to do now is to use all of these programs, and its tremendous management capability, more comprehensively. First, however, the Service must recognize that historic preservation is not something "external" to the National Park System—it is, rather, a major reason for its existence. Many historical parks are in great need of repair, and all of them are in constant need of maintenance. The public should demand the highest level of care for them. At the same time, the parks provide wonderful opportunities for educating visitors about preservation techniques and values. Park employees need to do a better job of sharing their talents and information with the public and with other preservation professionals in government and the private sector. In particular, the National Park Service needs to improve its relationship with State Historic Preservation Offices and more effectively coordinate activities with them.

Similarly, increased attention needs to be directed toward the Advisory Council on Historic Preservation to assure that it has not only sufficient funding and staff resources but also experienced and caring Council members who will uphold its mandate. Under the National Historic Preservation Act—especially the amendments of 1976 and 1980—the Council has a much more powerful role in advising the President and the Congress on historic preservation matters than it has ever fully exercised. The preservation community should demand that it live up to its statutory responsibilities.

There is also a need for an expanded role for other institutions, particularly in the area of education. This should involve universities as well as private organizations, and Federal leadership and support in some form may be needed. As the recent OTA study has shown, there is a great need for a national center for preservation information, research, and training. Again, some Federal focus is needed; the National Trust for Historic Preservation should be part of this, as well as the National Building Museum in Washington, D.C., which was recognized for these purposes in the 1980 Amendments to the NHPA.

As for the Historic Preservation Fund, the preservation community should take a fresh look at national needs, particularly with the increasing burdens on State offices and the growing needs of Certified Local Governments. Even in the face of current budgetary constraints, a stronger case could be made to Congress that these programs are carrying

out an appropriate and necessary function of government. If increased Federal funds are needed, then they should be requested. The fund currently has an authorized but unappropriated balance of about \$1 billion, so no new Federal authorizations will be needed for many years to come.

At the same time, the preservation community should also look at other sources of funding: other Federal programs and, perhaps more important, new or improved State and local programs. The type of lobbying that has been done so successfully in Congress should be duplicated in State legislatures, county commissions, and city councils. This should not be limited to funding, but to the enactment of improved State and local legislation for historic preservation. Under our Federal Constitution, the use of State police powers (zoning, permitting, and the like) can be a much more powerful tool for preservation than any Federal law that merely regulates Federal activities.

In short, while the NHPA has held up well for the past 20 years, there is still much left to do. Indeed, it is a little staggering to think that by the end of the next two decades, we will already be in the sixth year of an entirely new century. The membership in Congress will undoubtedly be different then too. But as long as the public continues to demand it, Congressional support for historic preservation will still be there.

The author has been a Member of the U.S. House of Representatives since 1971, and a Member of the House Interior Committee since 1973. He authored the original legislation that led to the creation of the Historic Preservation Fund in 1976, and authored and successfully managed the passage of the National Historic Preservation Act Amendments of 1980.

The States and National Historic Preservation, 1966-1986

Charles E. Lee

In 1966, no State had a really strong historic preservation program, although a few owned and opened to public view some rather randomly selected historic sites. For that matter, there was no really strong national historic preservation program. Like some of the State governments, the Federal government owned and operated some not-quite-so-randomly selected historic sites of interest and importance. It called attention to others in its slowly growing National Historic Landmark program and made sure that some of these would be preserved—if not on the ground, at least on paper in the Library of Congress, through the efforts of the Historic American Buildings Survey.

This was all very laudable, but—in view of the massive urban/suburban sprawl and road construction threatening to make America unrecognizable—it was not very reassuring to those who believed that "the spirit and direction of the Nation are founded upon and reflected in its historic past."

Thus, the National Historic Preservation Act of October 15, 1966—lasting proof that men and women of vision and energy, intelligence and determination, with luck and the help of providence, can undertake a good to counteract the evil of urbanization. Praise them with great praise!

Twenty years later, the face of America has changed, but most of it, largely thanks to the Act of 1966, is still familiar. In our great cities, new buildings have joined the old; but New York remains New York; Chicago, Chicago; San Francisco, San Francisco. Perhaps even more importantly, throughout America, in thousands of little towns—towns like Abbeville, South Carolina; Granite Falls, Washington; Fredericksburg, Texas—one can see and feel a continuity which makes them loved and enjoyed by citizens and visitors alike.

Much has been accomplished by the private sector—the National Trust, the statewide organizations, the local commissions, societies, and associations, and individual owners. But almost all of these accomplishments depend upon the remarkable public utility which the Federal and State governments, inspired by the Act of 1966, have built to make historic preservation a fundamental element of American life. Without the National Register of Historic Places—without the inventories, surveys, determinations of eligibility, and nominations that lead to the Register; without the Section 106 protective procedures, planning projects, historic rehabilitation tax credits, and certified local governments that build upon the Register—the national historic preservation program would be the hit-or-miss affair it was 20 years ago.

The catalytic work of the past two decades has been, as is often noted, the work of a State-Federal partnership. At times, the Federal government has been the leading partner; at times, especially in recent years, the States. But it has always been, and must continue to be, for the good of the country, a partnership in which both parties share goals, policy-making, costs, and labor.

The significance of the National Historic Preservation Act of 1966 lies in the response that the Federal and State governments have made to it. Its impact on State programs? State programs as such remain much as they were in 1966: some are good, some not so good. But each of the 50 States, plus each of the seven associated Commonwealths, Territories, and the District of Columbia, has a State Historic Preservation Office implementing the tremendously important Federal programs which grew out of the Act of 1966.

In 1986, if I may echo a comment made 200 years ago, we have a national historic preservation program, if we can keep it. The States have done and will continue to do their share.

The author has been South Carolina's State Historic Preservation Officer since 1969, and has also served as President of the National Conference of State Historic Preservation Officers, 1985 1986.

The Preservation Act of 1966: 20 Years Later

William Murtagh

Twenty years is an infinitesimally small speck in the annals of time, but in terms of activity, the period from 1966 to 1986 has witnessed a burgeoning interest in historic preservation in the United States and in the conservation of our national patrimony. This was occasioned in no small part with the passage of the National Historic Preservation Act on October 15, 1966. As we have moved from the middle of the 19th century with the early efforts of Ann Pamela Cunningham to save Mount Vernon, into the last quarter of the 20th century, we have moved from a preoccupation with landmarks intellectually isolated from their environments to entities of local concern in our culture; we have moved from a preoccupation with museums to a concern for neighborhoods where people live; and we have moved from a patriotically zealous approach to history to a greater appreciation of aesthetics.

In the National Historic Preservation Act, Congress directed the Secretary of the Interior to create a national list of what is worth keeping in the United States, known as the National Register. The law spelled out that this list should include sites, buildings, objects, districts, and structures significant in American history, architecture, archeology, and culture.

These could be national, State, or local in significance. The importance of the Act lies in the inclusion of the word "district;" the authority of the Secretary of the Interior to make grants to the private sector for preservation projects at the State's discretion; and the creation of the Advisory Council, which set up dialogue laterally at the highest level in government, the Cabinet level, and allowed preservation philosophy to filter downward through the bureaucracy. The National Historic Preservation Act of 1966, then, perhaps can be seen as an environmental act concerned with what we might call the cultural ecology of the Nation. Here was a planning act to reverse the traditional "rear guard brush fire" role of the preservationist in the dialogue of change and to bring the voice of the preservationist to the planning table before Federal dollars were spent to make change.

After functioning as the Director of Programs of the National Trust, I became the first Keeper of the National Register in 1967. To publicize to the general public the great new capabilities that the Congress had placed in the hands of the American citizen, by creating a system by which his voice could systematically and legally be heard at the planning table prior to implementation of Federal projects, this new office in a new program in the National Park Service organized a series of 13 conferences around the country. The Secretary of the Interior also wrote to the governors of the 50 States and six Territories and asked them for a representative to carry out the Secretary's directive from the Congress; these representatives are now known as State Historic Preservation Officers (SHPOs). It was shortly thereafter that a selection of States in the South took the lead in developing this program by meeting with me, in my capacity as Keeper of the National Register. From these meetings came the idea to organize the State Historic Preservation Officers into the National Conference of State Historic Preservation Officers. Thus was established the Federal-State infrastructure that continues to carry on the preservation programs at the State level in the public sector.

A frenzy of creativity and activity has followed in the 20 years since 1966. As a result, a number of legislative building blocks have been put in place relating to the National Register of Historic Places, and an equally large number of developments have taken place in the private sector. We have achieved in the past two decades nearly everything called for in the "Conclusion to the Findings" of *With Heritage So Rich* prior to the passage of the National Historic Preservation Act, including changing our tax laws to give economic incentives for rehabilitation purposes. Within this period also, academia

has seen fit to recognize the need to develop programming to train individuals to work in the preservation field. The University of Virginia and Columbia University in New York City were among the first to enter this field.

In years since 1966, preservation has become increasingly aware of economics, politics, and the law. It has also become more technical, in part due to the creation of such organizations as the Association for Preservation Technology (APT). Founded in 1968, the APT seeks to improve the quality of preservation practices and to promote education in historic preservation by study of materials, structures, and techniques. In 1969, the National Park Service created the Historic American Engineering Record in concert with the American Society of Civil Engineers to document and study engineering and industrial structures in the United States, as the Historic American Buildings Survey has been doing since the 1930s with buildings of architectural interest.

A major tool was put in the hands of preservationists when the President of the United States issued Executive Order 11593 in 1971 for the protection and enhancement of the cultural environment. This order directed Federal agencies to preserve, restore, and maintain cultural properties under their control and to establish procedures to implement a survey of their resources. When in doubt as to the significance of a property, these agencies were required to seek a ruling from the Secretary of the Interior as to whether or not they were dealing with a culturally significant property. The result was that a building no longer had to be actually listed in the National Register for the Advisory Council to take it into account; it only had to be determined eligible for the National Register.

During the same period, the National Trust for Historic Preservation witnessed an explosion of activity, thanks in large part to grants which it received along with the States from the National Historic Preservation Fund. In 1971, the Society for Industrial Archeology was founded to encourage the study of industrial and engineering sites and artifacts. The United States Postal Service issued its first commemorative stamp honoring historic preservation about the same time. The following year, the United States played a pivotal role in setting up the equivalent of a world National Register, known as the World Heritage List, when it became the first UNESCO member to ratify the World Heritage Convention.

All sorts of activities continued to develop in the decade of the 1970s. The Federal District Court in New Orleans upheld the constitutionality of historic district ordinances when it supported the right of denial of demolition of an important building in the Vieux Carre Historic District. The interest of citizenry in the neighborhoods where they lived continued to grow nationally. Seattle, for example, as early as 1974, became the first locality in the United States to appoint a city conservator responsible for directing the preservation activity under the city's Office of Urban Conservation. The first change in the tax laws to promote preservation came with the Tax Reform Act of 1976.

Perhaps the most important development of the decade of the 1970s was the United States Supreme Court decision in the case of Penn Central Transportation versus the City of New York, which ruled that the Penn Central Corporation had a responsibility to preserve the existing structure—the Grand Central Terminal—for public benefit rather than to tear it down and replace it with a skyscraper. This set a great precedent in favor of preservation.

Where does this leave us nationally? Generalizations are always dangerous, but it seems fair to state that the environmental thrust of the National Historic Preservation Act of 1966 has been established and retained. One can also observe that during the implementation period between 1966 and 1986 of the National Historic Preservation Act, legal counsels have moved litigation from an evaluation of the subject and its relative quality to an evaluation of process. Lawyers are more comfortable in dealing with absolutes than in dealing with the sliding scale of values of the humanities. Thus, process and methodology have replaced subject in many instances. If one accepts that preservation is a humanity, and if one accepts the premise that the humanities are man's concern with the humanness of mankind, then preservation today is essentially a humanist interest

exercised in the nonhumanist environment of today's increasingly politically and economically oriented marketplace. That's a very difficult place to be in, but to paraphrase the late Ansel Adams when he said, "we are living through an era that knows the cost of everything and the value of nothing," we must be sensitive to cost, yet we must also know values as well.

The author is currently a lecturer and consultant in historic preservation. He was the first Keeper of the National Register of Historic Places, National Park Service, 1967-1979.

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Foundations of Advisory Council Policy: Early Cases Under Section 106

Robert R. Garvey

The Advisory Council on Historic Preservation, and its review of Federal agency actions that affect historic properties, are creatures of the National Historic Preservation Act. The Section 106 process that preservationists rely on to ensure that Federal agencies pay attention to historic properties evolved during the first decade or so of the Council's existence. The process, and the policies and principles upon which it is founded, developed in response to the cases with which the Council was faced during its formative years. In its first decade, the Council reviewed some 4,000 Federal undertakings; today, about half that many are reviewed in a single year. Of those first 4,000, several stand out as particularly important in the development of the Section 106 process and associated Council policies. Each of the following cases has been reviewed and commented on by the full Council, establishing directions that the Council has followed ever since.

Consultation and Consideration of Alternatives: The San Francisco Mint

The early case that established the necessity for consultation and consideration of alternatives began in June of 1969 when the Department of Health, Education, and Welfare (HEW) sought Council comment on a proposal to transfer the historic U.S. Mint in San Francisco to the State of California, which planned to demolish it. The Council spoke strongly against demolition, telling HEW that it should work with government and private interests to explore alternatives. In connection with the rendering of this comment, Council Chairman S. K. Stevens and I traveled to San Francisco. We consulted with HEW representatives and representatives of State and local governments to consider alternatives. Returning the building to the Department of the Treasury for restoration and adaptive use proved the most feasible, and so the Mint was saved. Based on this model, we built consultation and explicit attention to alternatives into the procedures we were then developing to guide Section 106 compliance—the roots of today's regulations.

Indirect Effects: Saratoga Battlefield

Early in 1968, the Atomic Energy Commission sought Council comment on a nuclear power plant that it proposed to permit the Niagara Mohawk Power Corporation to build across the Hudson River from Saratoga Battlefield in New York State. The project would have had no direct effect on the battlefield but would have introduced visual elements out of character with the site's historical significance. This was the first case in which only indirect effects were at issue, but the Council unhesitatingly accepted the legitimacy of addressing such effects, and they have been considered on an equal footing with direct effects ever since.

Design Quality: Georgetown University

The very first case to come before the Council was the proposal of Georgetown University, using Federal financial assistance, to build a heating and cooling plant on its campus, within the Georgetown Historic District in Washington, D.C. The Council articulated a series of principles that it believed should be followed prior to new construction within historic districts: that buildings should be considered in relation to their environment; that new buildings should improve, not degrade, the unique quality of their neighborhoods; and that new construction should not imitate historic architectural

styles, but be sympathetic in scale, texture, color, and materials. These principles were later integrated into the Secretary of the Interior's "Standards for Preservation Projects." Georgetown University redesigned its project.

Comprehensive Planning and Archeology: Hunter-Liggett Military Installation

After issuance of Executive Order 11593 in 1971, the Council experienced an increase in cases involving archeology and western land management agencies. Beginning in 1972, a series of problem cases at Fort Hunter-Liggett, an Army installation in central California, led the Council to convene a meeting there in 1975 to review the Army's problems with both historic buildings and, particularly, archeological sites. Recommended was a comprehensive survey of the installation designed to accommodate the protection of archeological sites and other historic properties within the Army's ongoing training mission. This was the beginning of the Council's emphasis on comprehensive planning and programmatic solutions to management conflicts, particularly with respect to archeological resources.

Traditional Cultural Values: Moanalua Valley

In 1973, the Federal Highway Administration requested the Council's comments on a plan to build "Interstate" Highway H-3 through the Moanalua Valley on the island of Oahu in Hawaii. A petroglyph, or rock art, site in the valley was listed in the National Register, and the entire valley had been determined eligible for the Register. The project was bitterly opposed by many local people, including native Hawaiians who spoke eloquently about the importance of the valley's role in their traditional history and culture. The Council's comment stressed the importance of the traditional relationship between Hawaiian culture and the natural environment, as exemplified by the Moanalua Valley, and urged that the highway not be constructed through the valley. The highway was rerouted. This case established the Council's concern with preserving the role played by historic properties in the traditional cultures of native communities, a concern that has been expressed repeatedly since 1973 and that is reflected in the Council's new regulations and guidelines.

These projects make up a sample of the "case law" upon which the regulations, procedures, and policies of the Council are based. The Council has never drawn together this historical background, and the principles that can be derived from it, into a single document; perhaps it should. Today's Council members and employees might be more comfortable in their decision-making, and today's critics of Council actions might be less vehement, if they understood the history of the policies that now inform the Council's day-to-day work.

The author served as Executive Director of the Advisory Council on Historic Preservation from its creation in 1967 until his retirement from Federal government in 1986.

Bringing Preservation Home

Loretta Neumann

If celebrating the 20th anniversary of the National Historic Preservation Act does one thing, I hope it is that more people become aware of the Act's importance. Federal law often seems remote from our daily lives. This one, however, has had a direct effect on us all, in towns and cities everywhere. The Act set up certain governmental processes and protections that we now may take for granted but which simply did not exist two decades ago.

It has been my good fortune to work on preservation issues at both the national and local levels. Washington, D.C., my home for 20 years, is as much a city of neighborhoods as it is the Nation's Capital. In my neighborhood of Takoma, a group of us were concerned in the mid-1970s about what might happen to the character of our 100-year-old neighborhood when a then-proposed subway stop opened. We worked with the city on a comprehensive plan for the area and got it completely rezoned, mostly to our liking.

We soon learned, however, that zoning only deals with things like the height and bulk of buildings. It would not of itself prevent the razing of our small but charming commercial block or the insensitive alteration of a favorite landmark. So we pooled our resources, did a historic survey, lobbied the city offices, and eventually got Takoma listed as a historic district in the National Register.

Takoma is now protected by both Federal and local law. Perhaps equally important, the residents of Takoma also have more at stake in assuring that these protections are not diluted, whether by the city council or by the United States Congress.

Indeed, wearing my "national" hat as a Congressional staffer for the past 13 years, I see the continued need for vigilance to assure that historic preservation receives the attention and support that it must have to survive. The Federal-State-Local partnerships established by the National Historic Preservation Act are still young and fragile—20 years is not so long ago that we can take them for granted. As Members of Congress and Administration officials come and go, there is a constant need to re-educate both branches of government on why the national historic preservation program is so important to the American people. I hope that is what this anniversary celebration of the 1966 Act will help accomplish.

The author became legislative assistant to Representative John F. Seiberling (D-Ohio) in 1973, and joined the professional staff of the Subcommittee on Public Lands (Committee on Interior and Insular Affairs of the U.S. House of Representatives) when Seiberling became Chairman of the Subcommittee. In Washington, D.C.'s local preservation community, she has been a founder and continuing leader in Plan Takoma, Historic Takoma, and Washington Area Women in Preservation.

The National Historic Preservation Act and the Local Level

Cherilyn Widell

Glowing reports and congratulatory remarks from preservation organizations and government agencies are sure to abound during the 20th anniversary of the National Historic Preservation Act.

We should herald the development and success of the National Register of Historic Places, a national network of 57 State Historic Preservation Offices staffed with competent professionals, the continued strength of the Section 106 process for protection of historic resources from the effects of Federal projects, the success of the tax incentives for the rehabilitation of old buildings, and the certification of almost 200 local governments in less than one year of the Certified Local Government Program. The National Historic Preservation Program has had many successes.

But, pride of accomplishment should not overshadow the shortcomings that still exist.

Buildings and sites listed in the National Register are still being demolished on a daily basis. Completed historic sites surveys sit on shelves or in file drawers. Protection of historic resources is not a part of most of the community plans in this country.

It is apparent in *With Heritage So Rich* that a goal of the national historic preservation program was to make the protection of our historical patrimony a national ethic.

The blueprint for achieving this goal was simple and straightforward. Locate, survey, and register all significant historic properties, protect them from adverse effects of Federal projects, and provide financial and professional assistance to State and local governments to produce plans, legislation, and incentives to protect historic resources. The final report of *With Heritage So Rich* recommended that local governments undertake a comprehensive survey, study local legal preservation tools such as historic district zoning and architectural review boards, and provide an annual budget to preserve "places of importance to the community."

Supported by Federal legislation and funding, historic preservation was intended to be embraced by State and local governments as an important component in future planning.

In the 1960s, the environmental movement was in its infancy too. Environmental planning and protection was nearly unknown at the local level to all. Through public education and the mass media, environment became a household word supported by a populist movement. Today, environmental protection has become a national ethic institutionalized at all levels of government. The importance of protecting the environment is taught to every school child in the Nation.

We can learn from the environmentalists. The continued success of the national historic preservation program will depend on broad public support gained through education, not regulation. Preservation must be a part of the day-to-day decision-making in our city halls and State houses if we are to protect the historic resources. We must protect buildings listed in the National Register through State and local legislation. We must incorporate the findings of historic sites surveys in local plans. We must make preservation a part of the planning process in every community. Most important, we must teach public officials and citizens alike that the preservation of historic resources is important to protecting the character and history of a community as well as a nation.

Today, preservation is riding on a wave of popularity fueled by the success of tax act projects and the recent restoration of the Statue of Liberty. Opportunities abound for garnering public support and understanding of the preservation movement.

Armed with the brilliant plan afforded us by the National Historic Preservation Act and *With Heritage So Rich*, we have spent 20 years building a strong foundation. The goal of the national historic preservation program was to make the protection of our historical patrimony a national ethic. Now is the time to finally make that dream come true.

The author is the Executive Director, National Alliance of Preservation Commissions.

Preservation Action: Building a Preservation Constituency

Nellie L. Longworth

The organization of national grassroots advocacy for historic preservation followed the enactment of early preservation laws by many years. Success in 1966, and even 1976, was the result of well-placed men of visions, such as Gordon Gray (1966 Act), Richard Nixon (Executive Order 11593), and J. Glenn Beall (Senate floor amendment leading to the 1976 Tax Reform incentives). While the results were excellent, it became clear that the need for improved legislation and appropriation at the Federal level of government should no longer be left to the "luck of leadership" but should involve the thousands of Americans active in preservation in their own communities. Preservation Action, the national grassroots lobby for historic preservation and neighborhood conservation, was spawned in this environment.

Preservation Action's entry into the political arena brought with it the challenge to redefine "historic preservation" in terms that would broaden our acceptance by politicians as well as professionals in related fields. We had to understand preservation as an environmental issue, a real estate issue, a local community betterment issue, a design issue, a legal issue, an energy issue, and a heritage issue, all at the same time. We had to develop answers and facts that would communicate with other potential supporters.

Members of Congress, governors, and mayors would ask us how many jobs were created by preservation, how abandoned buildings could be put back on the tax rolls, and what this would cost.

Developers would only be interested in revitalizing older buildings and decaying neighborhoods if the risks were offset by economic incentives.

Architects would need to understand the merits of designing new buildings and additions in historic areas that enhanced the style, massing, and flavor of the area.

Planners were in the habit of ridding cities of tired old buildings through urban renewal schemes without the notion that preservation was a cost-effective alternative with economic potential.

Environmentalists were so busy with their own cause in the 1970s that they did not realize how compatible built environment issues were with natural environment concerns.

In short, to operate effectively in the political arena, we had to increase our numbers and redefine our goals. In looking for the issue to bring disparate constituencies together in a common cause, the Federal real estate tax laws, which clearly favored new construction over rehabilitation, became the focus of the first national grassroots lobbying effort on behalf of historic preservation.

We were successful in 1976 and have continued to be successful in all areas of legislative achievement from tax to appropriation to new authorization and amendment. The success of our endeavors in the Federal political arena speaks to a successful wedding of issues, constituents, and politicians.

It speaks to legislation that creates programs that really work, with professionals to carry them out.

It speaks to cooperation between the National Trust, National Conference of State Historic Preservation Officers, National Alliance of Historic District Commissions, Preservation Action, and many others in coordinating legislative strategy.

It speaks to hours of organizing and inspiring lobbying networks and tax task forces to sway the votes of their own Congressional delegation.

Historic preservation has prospered. We have learned that others, whose goals were different but compatible, make preservation happen: architects need the jobs provided by rehabilitation; mayors support the use of private dollars to rebuild downtowns and bring back the tax base; investment advisors steer money into rehabilitation; people in business

actively seek historic designation. We have done more than create economic incentives. We have amended the Historic Preservation Act in 1980 by addressing forthrightly the concerns of citizens and public officials who upheld the rights of owner consent and local government participation. We have not "sold out;" we have moved our program more into the mainstream of American life.

The battles are far from over. The tax incentives are fragile. Development pressure will continue to put a high price on retention of historic buildings when the alternative of demolition and new construction offers lucrative rewards. Architects and designers will want maximum freedom to practice their art. Developers and investors will always desire the best possible economic return. Appropriation of funds for historic buildings will always be in competition with other community needs for ever-shrinking public dollars.

Our success in bringing together a constituency of many disciplines for lobbying purposes has been an important first step, one that must have vitality beyond external challenges and threats such as those posed by changing Federal tax policy. We must be ready for challenges and the need to re-evaluate our policies. We must give leadership to those Americans who are dedicated to preservation and advocate "heritage for heritage's sake" in public forum. We must broaden grassroots lobbying in support of improved programs and appropriations at all levels of government.

We must remember that the political arena is important, but it is only a reflection of a strong national desire to preserve our past. It will not work without sound preservation programs at all levels of government, in the National Trust, and in the private sector.

The author has been President of Preservation Action since its formation in 1974.

Preservation in New Bedford

John Bullard

Best known as the Whaling City because of the romantic fascination and unrivaled economic success of its mid-19th-century whaling fleet, New Bedford re-achieved worldwide fame with the excellent quality and prodigious output of its turn-of-the-century cotton textile mills. Restoration activities recently have been returning New Bedford to those great times, restoration made possible in large measure by the timely infusion of Department of the Interior recognition (through National Register listing of many historic districts) and financial assistance (restoration grants). Historic preservation has played a crucial role in revitalizing New Bedford while retaining its unique identity.

The quiet crossroads-landing of the 1760s became a bustling seaport of 20,000 people with the highest per capita income in the world by 1845. Although whaling's halcyon days would be too brief, New Bedford would always retain an active and vital working waterfront. Even before the whaling industry was in its death throes a few decades later, foresighted investors were nurturing the industrialization that would catapult New Bedford into the 20th century. Its population trebled in a brief 30-year span (from 40,000 in 1890 to 134,000 in 1924) as the insatiable labor demands of the cotton mills drew thousands with the promise of prosperity. Both periods created an unrivaled collection of residential architecture.

The tragic events of the Great Depression, subsequent labor unrest, and successful market competition by southern textile concerns doomed New Bedford to a long and painful economic malaise from which it is even yet struggling to recover. But the decades of high unemployment and faltering industry precluded the wholesale destruction of those marvelous architectural treasures. New Bedford remains the repository of its 19th-century success. Here is the transition of Federal to Greek Revival housing, the subtle evolution from the flamboyant Queen Anne to the conservative Shingle style, the nearly universal impact of Classical and Colonial Revival and all the adaptations, combinations and styles in between. Here, too, is the practical commercial and business district of the waterfront era, relatively small and unpretentious wood frame counting rooms and warehouses carefully preserved and lovingly restored, with the later 19th-century downtown: larger brick and granite buildings with elaborate cornices, cast iron store facades, and lingering memories.

Preservation for New Bedford is a conscious effort; an awareness of the demands of modern living within the context of our remarkable heritage. This philosophy was born in the darkest hours of urban renewal's convulsions with WHALE, a private, non-profit organization with a narrow focus on the waterfront, but rapidly grew. The timely support of the Department of the Interior's National Park Service through financial commitments (beginning in 1975 with a \$12,100 grant for exterior restoration of the First Baptist Church) provided nearly \$500,000 in grants for the restoration of many vital buildings, beginning in the waterfront area and spreading into the commercial and nearby residential neighborhoods.

Abandoned commercial buildings were among the early targets for full scale exterior restoration and adaptive re-use of the interior. The tragically decaying Rodman Candleworks building, a symbol of New Bedford's earlier preeminence, was transformed into a bank, a restaurant, and office space. Its salvation was the product of the blending of several Federal and local resources, including a \$94,000 restoration grant from the Department of the Interior, additional funds through the City's Community Development Block Grant, staff support through the Office of Historic Preservation, and WHALE's cooperation. Early restoration and adaptive re-use projects triggered the restoration of the historic waterfront. Preservation became a tool of local government. A unique city

agency, the Office of Historic Preservation, created with Community Development Block Grant funds, actively sought to restore awareness and pride through education and financial and technical assistance.

The Comprehensive Training and Employment Act (CETA) provided another unusual opportunity for New Bedford, for it allowed the Office of Historic Preservation to acquire a skilled research staff to provide invaluable historic survey and inventory information, using otherwise underemployed talent. This CETA project staff helped identify and list in the National Register six historic districts. Listing made another valuable restoration stimulant available, the tax credits for historic rehabilitation.

With the powerful catalyst of the Department of the Interior's initial grants, the national recognition of several historic neighborhoods and the waterfront by listing in the National Register of Historic Places, the influx of Community Development Block Grants, economic development grants, Industrial Revenue Bonds, Commonwealth of Massachusetts programs such as MHFA loans, the Massachusetts Historical Commission's Preservation Projects Fund and technical assistance, and private investment attracted by the historic investment tax credit, New Bedford has been able to apply over \$22 million since 1975 to preservation projects that began with the restoration of the waterfront. These funds influenced the rebirth of major residential neighborhoods and the retention of a great architectural heritage.

The author is Mayor of New Bedford and formerly served as Agent for the non-profit preservation organization WHALE 1974-1985.

Urban Renaissance Through Rehabilitation

Peggy McClellan

St. Louis ranks first in the Nation in the number of projects using tax incentives. Encouraging rehabilitation of historically significant structures, the city has undergone a dramatic urban renaissance which quite simply would not have occurred without the tax program.

The many positive effects of the historic rehabilitation tax credit are outlined in a recent study prepared by the St. Louis Urban Investment Tax Force. Between 1982 and 1985, \$435,633,000 was invested in certified historic structures. This resulted in the rehabilitation of over 675 deteriorated buildings, including more than 4,200 housing units and 44 commercial sites. Economic benefits to the city include an increase of \$68,900,000 in the overall assessed property value, as well as the creation of 7,780,000 hours of construction work. Additional sales tax revenue has been generated by such commercially successful projects as Union Station and the Fox Theatre.

Laws such as the National Historic Preservation Act of 1966 have made it possible for small entrepreneurial real estate companies with limited capital such as Mead-McClellan to develop successful residential projects in center city neighborhoods. We began in 1976 by purchasing a four-unit building in the Souard neighborhood, a historic district listed in the National Register. Mead-McClellan wanted to create high-quality rehabilitated housing and attract new residents to the city. We chose Souard because it is the oldest neighborhood in the city, and the uniqueness and charm of the architecture appealed to us. However, many of the historically significant structures were abandoned and deteriorated. The neighborhood had barely survived over two decades of disinvestment and was clearly in danger of being lost.

The tax incentives made it economically feasible for us to do the extensive rehabilitation necessary to make these buildings habitable. Otherwise, the cost per square foot would have required rents higher than the market could bear. Since our first successful four-unit project in 1976, Mead-McClellan has developed both rental and sale units in the Souard neighborhood, representing an investment of \$15,000,000. The neighborhood has stabilized, with other developers becoming involved in rehabilitation as well as a substantial number of home owners. The review process required for receiving historic certification has helped to assure high standards as well as protect the value and the character of the buildings.

Mead-McClellan also has expanded into other historic city neighborhoods. We now have renovated over 120 structures and added 800 units to the market. These one- and two-bedroom apartments rent at \$300 to \$800 per month. This represents an investment of \$30,000,000, with much of the equity coming from sources outside the community, thus adding new income to the local economy. Mead-McClellan manages these properties as well, creating work for new 30 employees.

The tax incentive legislation intended to direct investment toward the rehabilitation of older, architecturally and historically significant buildings, many located in center cities. The program has worked well. Compared to other housing and economic development programs, it has cost the Federal government a minimal amount of money, since it emphasizes the private sector role.

The job of revitalizing city neighborhoods is far from complete. With the tax incentives program, companies like Mead-McClellan can continue to work with the Federal government to achieve positive results for everyone.

The author is a partner in the Mead-McClellan Partnership, a real estate development company that specializes in renovating buildings in St. Louis.

Excavations at Thomas Stone NHS

Ron Deiss

On New Year's Day 1977, a fire gutted much of Habre-de-Venture, the home of Thomas Stone, a signer of the Declaration of Independence. Three years later, the National Park Service acquired Habre-de-Venture, along with 321 acres originally owned by Stone. The NPS is currently stabilizing the damaged Thomas Stone House which became a national historic site in 1980. Unoccupied since the fire, the house suffers from exposure to the elements. Archeological investigations are a necessary part of the preservation process and improve our understanding of the past.

Thomas Stone was born in 1743 at Poynton Manor, a few miles west of Port Tobacco, MD. After an informal education he began to practice law at age 21. Four years later, he married Margaret Brown and purchased a home near his birthplace known as Habre-de-Venture. The story-and-a-half home was built in the Georgian style with large terraced formal gardens and a central walkway. Little else is known of Stone's rural plantation life. His successful law practice in Frederick Town and Annapolis may have been his major concern.

Interest in Politics

Active in politics as a strong conservative, Stone was respected among his peers and was elected to the Continental Congress shortly before the Revolutionary War. In 1776 Stone thought war with Britain was a drastic action, although it was unanimously agreed that independence was best for the people. Stone signed the Declaration of Independence at age 33, the youngest member of the Maryland delegation.

During the early years of the Revolutionary War, Stone was instrumental in the development and formation of the new central government. He also served three terms in the Senate beginning in 1776 and was also selected as a representative for the Constitutional Convention in 1787, but declined due to his law practice and his wife's ill health. Thomas Stone and his wife died only a few months apart in 1787 and are buried in the family cemetery within the park property. Habre-de-Venture remained in the Stone family until the mid-1930s.

Fire Damages House

The house was in excellent condition in 1977, when fire destroyed the interior of the main house and additions. Although considered one of the well-known examples of Colonial period Maryland architecture, the house complex contains undocumented repairs and modifications which are presently being studied by the NPS. In 1983, temporary roofs and chimney caps were installed to protect the gutted interior and preserve the brick walls.

Before restoration and further stabilization, an Historic Structures Report had to be prepared. Measured drawings and other architectural studies conducted by the Historic American Buildings Survey in 1985 encompassed the home and four outbuildings. Complete architectural analysis is in progress. An office building structure, connected by a breezeway to the main house, was in very poor condition and in threat of collapsing. This building was last used as an office for a thoroughbred horse newspaper and has been speculated to date back to the 18th century and used by Thomas Stone as his law office. Prior to stabilization, architectural and archeological analysis was implemented to determine the age, function, and relationship of the office to the main house.

Excavations Begun

In April of this year, three NPS archeologists began the three-month excavation of the office building to determine its age and significance. Excavations are required on National Register properties owned by the NPS whenever significant subsurface remains are threatened by destruction. To stabilize the building and remove moisture from the foundation, an independent drain system is planned around the perimeter of the foundation. The archeologists excavated in the area where this subsurface disturbance was to occur.

The archeologists immediately discovered that a drain system in fine working order already existed around much of the foundation and was put into place in the early-20th century. This early-20th-century date is attributed to machine-made bottle fragments obtained from the drainage construction trench and from photographs discovered after the excavations were completed.

It was also discovered that the brick foundation for the office used Portland cement in two distinct building episodes. One building episode lifted the present building off the ground in the late-19th century and the other building episode tried to correct foundation movement in the early-20th century. Excavations were used to determine why the foundation exhibits these modifications.

In the next two months the archeologists, with the aid of volunteer help, discovered that the brick from these two modern building episodes covered a buried brick foundation. The buried foundation used sand and lime mortar to bond the brick. This mortar also contained oyster shell, which is an older construction technique. The excavations revealed that the older foundation originally supported a floor plan of different dimensions than the office building. Foundation stress had led to structure problems inherent in the building today. This buried foundation could date from Thomas Stone's occupation of the site, since a Colonial period wine bottle was recovered from its construction trench.

Artifacts Recovered

Approximately 40,000 artifacts have been recovered thus far. Brick, nails, and mortar from the

successive building episodes have been collected in large amounts. Other artifacts relating to the household and its activities have also been collected as significant to the long occupation of the site by the Stone family. A large copper George II penny from the mid-18th century was a surprising find, since coinage was not common in southern Maryland. The dishes, bottles, and coin recovered originate from England, implying a dependency on the mother country for particular goods. A gold tooth was also recovered.

Plans are underway to determine other previously unknown facts about Habre-de-Venture and the life of Thomas Stone which remain hidden within the buildings and beneath the soil. Architectural and archeological analysis is necessary to gain insights into the reconstruction efforts. This information will contribute to Thomas Stone National Historic Site development and to Maryland's history.

The author is site archeologist at Thomas Stone National Historic Site. He thanks George Wearmouth of Port Tobacco, MD, for information about the early photographs of Habre-de-Venture and the life of Thomas Stone.

Shingles Project at Shenandoah National Park

Edward D. Freeland

(Note: The following is a special Historic Architecture Study conducted about 1940.)

Foreword

During the days of CCC in Shenandoah National Park there was established at Big Meadows a sub-headquarters for the maintenance and storage of Park equipment. The area contains six substantially-built structures; a repair garage, a blacksmith shop, equipment storage building, warehouse and office, cement, lumber and miscellaneous storage building and a carpenter's shop. The roof covering of these buildings is roughsawed chestnut shingles. The time is fast approaching when these shingles will have to be replaced, and this should be done with a more permanent material. CCC made some concrete shingles for comfort stations and the permanent buildings at the Headquarters Utility Area. However, there was considerable lack of uniformity in color, thickness, aggregate and texture of finish. With Civilian Public Service (Conscientious Objectors) labor available, and since the men were not required to work outside in bad weather, the logical thing to do was to provide inside work. The shingle project was the ideal solution in order to take advantage of this otherwise wasted labor. After getting prices on roof covering of a type that would be permanent for Park buildings, we experimented with concrete shingles. The idea is not original with us. Concrete shingles have been made for years by firms whose desire it was to supply a roof covering which gave the appearance of age, yet was fire resistant and rustic.

The Shingle Mill

There was no building available at the Headquarters Utility Area which we could adapt for this use, so we built a shed for the purpose. The building was designed for mass production and was built entirely of scrap material salvaged from old buildings in the Park which had been razed under another CPS project. The building houses a sand bin, power-operated sand screen, power-operated cement mixer and conveyer for the mortar box. Shingles are made on a production-line basis, each man having certain tasks to perform. The mortar box moves along the production line on a frame suspended from an overhead track (salvaged from old CCC garage doors). The forms for the shingles are placed on trays. The trays are 28" wide and 6" long. The table on which the trays are placed is a convenient working height and holds six trays placed end to end. When one set of trays is filled, another set of trays is placed on top and the process continues. The sides or frame of the tray hold it up sufficiently to clear the lower course of newly-made shingles. The capacity of each tray is from 6 to 10 shingles, depending on the width of shingles being made.

While the power-operated sand screen and mixer speed up production and make for uniformity, the project could be operated entirely by hand labor.

Production

In production the process is as follows: In twenty minutes of operation the power sand screen will screen enough material for a day's run.

The Number One man feeds the mixer, places the reinforcing wires and fills the forms with mortar.

Number Two man screens off the mortar to the thickness of the forms and removes the forms.

Number Three man shapes up the shingle with a steel trowel and punches the nail holes.

Number Four man puts on the color (black, yellow and green paint pigment in powder), rubs it in with a wooden float or trowel and marks the shingle with the desired texture.

The tool for marking the shingle is a block of wood 1" x 4" x 8". One end is cut down for a handle. Through the other end are driven 10 or 12 8D nails on an angle. Drawing this across the shingle in a straight or wavy line produces the desired texture or rough finish.

The formula is one part Portland cement to two and one-half parts of clean, sharp sand. Water is added from an automatic measuring tank providing a consistency that will stand alone when the forms are removed. The day's run is sprinkled the next morning before they are moved from the trays to the storage yard. If the weather is nice, allowing work on other projects, the shingles are left on the trays as they cure better in the shade. Four men can operate the mill efficiently and can make two SQUARES (approximately 448 shingles) in eight hours under normal conditions when each man knows his job and does his part. From one to four additional men can work on the same project which makes the work lighter but has little material effect on the output.

All shingles are made in 6, 8 and 10 inch widths. The standard shingle is 21 inches long, starters are 12 inches long. The shingle for the next-to-the-last course at the ridge requires a special form to allow nailing space for the last course. The last course is a short shingle, and its length is governed by the exposure. In other words, if the courses are laid 8 inches to the weather, the shingle for the final course at the ridge will be 8 inches in length.

The forms are made from material 1 inch wide and 1/2 inch thick for the butt side of the form and 3/8 of an inch thick for the top edge of the form. This gives the shingle a slight taper and they match better. As no ridge cap is used, it is necessary to use a sealing compound or mastic to get a water-tight joint.

While we have not made shingles for a roof with a valley, the process is similar to that of making the various shapes for a hip roof. For a hip roof four special shapes must be made. The angle, of course, is governed by the pitch of the roof. Rights and lefts are required for the starters, regulars, next to the last and last courses. If care is taken in building the forms for hip shingles, one can get such a close fit that the mastic in the joint is hardly noticeable.

Laying the Concrete Shingle Roof

For a concrete shingle roof, the framing should be built the same as for a slate roof as the concrete shingles weigh approximately the same per SQUARE. The roof should be sheathed solid, and any good grade of felt or tarpaper used under the shingles.

To get the proper pitch for the starter course, a strip 3/4" x 1-1/2" wide, slightly beveled, is nailed along the edge of the last course of sheathing. Starters are laid with a 1" overhang. The next course, standard length, breaks joints over the starters and the butts laid to the same line as the starters. Courses can be laid in a straight line at the butts or staggered from one-half to three-quarters of an inch. The staggering gives a pleasing and artistic effect. After the first three or four courses are laid, by working from the staging, care must be taken to avoid breakage in getting on the finished portion of the roof. Both sides of the roof can be shingled up to within two or three courses of the ridge. The job then can be completed by straddling the ridge. The caulking should be done along the ridge as the work progresses to avoid having to go back over the laid shingles. If the ridge is long, two men can start at the center and work toward the gable ends.

A gray mastic is used and put in the joints with a mastic gun. Concrete shingles are nailed on with two No. 6 cement-coated or galvanized nails. Care should be taken not to drive the nails up tight as there is danger of breakage from driving the nails and from expansion.

Technical Data

Note: All data, such as costs, weight and quantities, are based on a SQUARE when laid with an exposure of 8 inches to the weather.

A SQUARE of concrete shingles contains 224 shingles in the following proportions: Starters, 14; Regulars, 182; Ridge, 14; Finish, 14.

A SQUARE of concrete shingles made according to the methods outlined weighs 1150 lbs., or 11-1/2 lbs. per sq. ft.a

Materials Required and Cost per SQUARE

| | |
|----------------------------------------------|-------------|
| Sand—16-112 cu. ft. | \$ 1.10 |
| Cement—3-1/2 cu. ft. | 3.15 |
| Reinforcing wire—448 pieces 12 gauge 18" | .40 |
| Color—2 ozs. | .10 |
| Labor—2 man days @\$4.00 per diem (4 men) | <u>8.00</u> |
| Cost per SQUARE | \$11.75 |

Our Cost per SQUARE with CPS Labor \$3.75

Our cost per shingle .016; with per diem labor .052.

a.—Slate shingles 1 1/2" thick by 12" x 16" weight 18 Lbs. per sq. ft.

b.—Slate shingles 1/2" x 12" x 16" cost \$18.00 per SQUARE in 1940.

No prices available now on this or other sizes.

The author was Superintendent of Shenandoah National Park from January 1942 to October 1950.